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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,033	12/11/2001	Michael S.C. Chung	F0958	6279

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EXAMINER

NGUYEN, HIEP

ART UNIT PAPER NUMBER

2816

DATE MAILED: 04/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

10/015,033

Applicant(s)

CHUNG, MICHAEL S.C.

Examiner

Hiep Nguyen

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-13,20 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-19 is/are allowed.
- 6) ☒ Claim(s) 1-3,5-13,20 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

The amendment filed on 01-29-03 has been received and enter in the case.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the recitations “a ring oscillator” in claim 9, “an oscillator” in claim 17, “an oscillator” in claim 17, “said oscillator” 18, “a regulator circuit” in claim 14, “a programming voltage” in claim 20 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 5-13, 20 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Correction and /or clarification is required.

Regarding claim 1, the recitation “a switched capacitor circuit coupled to said voltage multiplication circuit which **controls said output voltage** from said voltage multiplication circuit, wherein a ratio between a first capacitor of said switched capacitor circuit and a second capacitor determines said rise-time of said signal” is indefinite because it is misdescriptive. According to the specification (page 7, first paragraph) the switched capacitor circuit (network) includes elements (115, 116 and 117). Element (115) is an **only** capacitor of the switched capacitor circuit thus, the “a switched capacitor circuit cannot comprise two capacitors i.e., a first capacitor and a second capacitor as recited. The Applicant is requested to point out the “a

switched capacitor circuit” in the drawing and what is the “a first capacitor” and “a second capacitor”.

Regarding claim 6, the recitation “wherein said voltage multiplication circuit generates a **VPP output** voltage **given a VCC input voltage**” is misdescriptive because according to figure 1 of the present application, the output voltage (VPP) is generated from signal (ENVPP) not the supply voltage (VCC). VCC is not the input voltage to the charge pump (101).

Regarding claim 7, the recitation “1 further comprising a level shifter to **shut off** said signal.” is indefinite because it is misdescriptive. The “level shifter” shifts a voltage (ENVPP) to a higher level (VPPONBH) (specification page 6, lines 14-15). It does not “**shut off** said signal” as recited. Explanation about “shut off” is required.

Regarding claim 11, the recitation “wherein said switched capacitor circuit switches between ground and a divider node which has a constant reference voltage according to a feedback system” is indefinite because it is misdescriptive. Figure 1 of the present application shows that the voltage at the “a divider node” (136) varies because (VPPDIV1) depends on a variable voltage (VPP). Note that figures 2, 3 and 4 show that (VPP) is variable. The Applicant is required to prove that the voltage at the divider node (136) is **constant**.

Regarding claim 20, the recitations “generating a programming voltage from a power supply, wherein said programming voltage is greater than voltage from said power supply” and “generating a stair-case ramp based on said programming voltage in response to said program signal” are indefinite because it is misdescriptive. Assume that the “a programming voltage” is (Vpp), the output of the charge pump (101), then voltage Vpp is greater than the input voltage to the charge pump (ENVPP), not the power supply voltage (Vcc). The Application is requested to show what is the “a programming voltage” and how it can be generated from a power supply.

Claims 2-5, 8-10, 12, 13 and 21 are indefinite because of the technical deficiencies of claims 1 and 20.

Response to Arguments

In the Remarks, The Applicant fails to clarify the 112, 2nd rejection and the drawing objection.

Regarding claim 1, and according to the specification, page 7, lines 4-6, the switched capacitor circuit (network) comprises capacitor (115), and a pair of NMOS pass devices (116) and (117). Capacitor (115) only changes the slope of the ramp signal. It does not **control “said output voltage** from said voltage multiplication circuit” i.e., varying **output voltage** from said voltage multiplication circuit as recited. The only circuit that can “control” the **output voltage** from said voltage multiplication circuit is the circuit comprising a first capacitor (113) and a second capacitor (114) which **do not belong** to the “switched capacitor circuit” comprising (115), 116, and (117). Thus, the “a first capacitor” and the “a second capacitor” are not components of the “said switched capacitor circuit”.

Regarding claim 6, the Applicant fails to clarify what the recitation “given” is. If “given” is replaced by “particular”, the recitation “ wherein said voltage multiplication circuit generates a VPP output voltage **given** a VCC input voltage” will become “ wherein said voltage multiplication circuit generates a VPP output voltage **particular** a VCC input voltage” and it will not make any sense. Moreover, VCC is **not** the input voltage to the charge pump.

Regarding claim 7, The Applicant fails to explain how the level shifter (105) can **shut off** “said signal”. The specification (page 6, lines 14-15) states that “the voltage level that converts **the control signal ENVPP to a level shifted inverted signal, VPPONBH**”. Thus, claim 7 is misdescriptive.

Regarding claim 9, the Applicant fails to point out in the drawings the “a ring oscillator”.

Regarding claims 11 and 12, The Applicant fails to prove that the voltage (VPPDIV1) is **constant**. Therefore, claim 11 remains indefinite.

Claim 20 remains indefinite because the Applicant fails to prove that the programming voltage is “**greater** than the voltage from said power supply”. Page 7, lines 20-27, of the specification does not disclose how the programming voltage is generated and fails to prove that the “said programming voltage is **greater than** voltage from said power supply”. Thus claim 20 remains indefinite.

The Applicant is requested to shows the limitations “a ring oscillator” in claim 9, “an oscillator” in claim 17, “said oscillator” in claim 18, “a programming voltage” in claim 20 on the drawings though these “missing” elements were pointed out in the previous Office Action.

Allowable Subject Matter

Claims 14-19 are allowed.

Claims 14-19 are allowed because the prior art of record fails to teach or fairly suggest a switched capacitor controller for controlling a rise time of an on-chip generated voltage source comprising: a charge pump; a ramp generator coupled to the charge pump wherein, the ramp generator comprises a switched capacitor; a regulator coupled to said capacitor which causes a capacitor to switch between ground and a node wherein, a stair-step ramp signal is generated and the rise time is controlled by the switched capacitor as called for in claim 14. Therefore, claims 14-19 are presently allowed.

Conclusion

THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Hiep Nguyen whose telephone number is (703) 305-0127. The examiner can normally be reached on Monday to Friday from 7:30 A.M. to 4:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached on (703) 308-4876. The fax phone number for this Group is (703) 308-6251.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Hiep Nguyen

04-04-03



TUAN T. LAM
PRIMARY EXAMINER